CHAPTER 6. ESTIMATED BENEFITS AND IMPACTS OF THE IOWA MRT

The Mississippi River Trail will not only connect states along the river but will connect people, communities, and attractions. Because the MRT will open new cycling networks, the trail has the potential to not only impact cyclists, but also communities, businesses, and tourist attractions the trail passes through. In particular, the economic and tourism benefits for communities along the recommended MRT routing are described in this chapter.

In addition to economic and tourism benefits, the Mississippi River Trail will have the unique opportunity to benefit motorists as well as cyclists. The wider widths of paved roadway shoulder required for MRT bicycle lanes also provide motorists an added safety benefit in reduction of run-off-the-road and bridge crashes. This chapter uses associated research to explore motorist benefits of paved shoulders, while analyzing how the research impacts the planning of the Iowa MRT.

Usage Estimate and User Profile

Economic impacts of cycling trails have been well documented in a number of research studies. Essentially, the associated economic impacts depend on the density of use of the trail (e.g., the number of users per mile) and the location of the trail. In general, urban trails are much more heavily used than rural trails. However, users of rural trails tend to spend more money per visit; this is because urban trail users tend to come from the local area around the trail and therefore spend less for services such as lodging and restaurants. Users of rural trails may come from farther away and may need to use local services.

Estimates of the economic impact of the MRT can be made based upon cycling counts for comparable trails plus past studies of the spending of cyclists who use the trails.

Bicycle counts made on the Heritage Trail in Northeast Iowa indicate that a density of use of 5,000 users per mile per year is feasible for the MRT in Iowa. That equates to 14 riders per mile per average day. However, since almost half of all use occurs on weekends, the usage density figure varies a great deal by day of the week.

User counts for urban trails are almost always significantly higher. Cycling counts on the Minuteman Trail in the Boston, Massachusetts, area are as high as 30,000 per mile per year. In Lafayette, California, the number is closer to 50,000 per mile. (The equivalent users per mile figure is 82 to 137 per average day.) Again, half the use occurs on the weekends. For the MRT, the figure of 30,000 users per mile per year (or 82 per average day) appears feasible for the portions of the trail in urban areas.

Table 6.1 indicates the estimated economic impact of the MRT in Iowa should be on the order of $18.5 million in new spending for services such as food and lodging each year. The estimates below include usage by both cyclists and pedestrians (hikers and joggers).

Most of the impact could be expected in rural areas. However, the impact in urban areas would be considerably higher per mile of trail.

Table 6.1. Estimated Iowa MRT Usage and Expenditures

Category	Rural	Urban	Total
Mileage	250	50	300
Estimated Usage			
Users/mile/year	5,000	30,000	NA
Estimated annual users	1,250,000	1,500,000	2,750,000
Percent cyclists	65%	20%	NA
Percent walkers and joggers	35%	80%	NA
Estimated annual cyclists	812,500	300,000	1,112,500
Estimated Annual Expenditures			
Per user average	$10.00	$4.00	NA
Total	$12,500,000	$6,000,000	$18,500,000
Estimated Annual Expenditures Per User by Category			
Restaurants	$3.00	$1.00	
Gasoline stations	$2.00	$1.00	
Lodging	$1.50	$0.50	
Other retail	$3.50	$1.50	
Total per user average	$10.00	$4.00	

Safety Impacts to Motorists

The development of bicycle lanes for the Mississippi River Trail will extend benefits to motorists as well as cyclists. Providing bicycle lanes for cyclists takes cyclists off the same travel path as automobiles and trucks. Also, the paved shoulders required for bicycle lanes provide safety benefits to motorists. A study to measure motorist safety benefits of paved shoulders by the Iowa DOT and the Center for Transportation Research and Education at Iowa State University concluded that paved shoulders of at least 3 feet have been nationally shown to reduce associated motor vehicle crashes (Souleyrette et al. 2001, p. 34). In addition, the study recommends 6-foot-wide shoulders for bicycle use, which is consistent with the recommendations of the Iowa Mississippi River Trail Advisory Committee and the BLOS study used for the Iowa MRT.

Bridge widening along the MRT routing may also be necessary to create safe travel lanes for both cyclists and motorists. Manual, correlation, and regression techniques were used to determine conditions that may be frequent factors in bridge crashes, as well as assess potential treatments to alleviate these safety problems (Turner 1984, p. 45). These techniques were used on two-lane, two-way traffic roadways with structures in the state

of Texas. Many roadways with structures on the recommended MRT routing have similar roadway characteristics as roadways used in Turner's bridge crashes study; therefore, Turner's findings may prove useful for the Mississippi River Trail routing. In essence, Turner used his three methods to determine that the three most significant variables in predicting bridge crashes were bridge relative width (or bridge width minus the width of the traveled route), average daily traffic volume, and approach roadway width (Turner 1984, p. 53).

Portions of Turner's study do agree with findings of the MRT bicycle level of service study, while other Turner findings provide deeper insight into safety issues of the Mississippi River Trail. Average annual daily traffic volumes were used in the BLOS study; generally, corridors were classified as less suitable for bicycle lanes as AADT rose per corridor. In addition, roadway width was an important factor in the BLOS calculation. Corridors were considered to be less suitable for bicycle lanes as roadway width decreased per corridor. Turner's findings on bridge relative width, or the bridge width minus the roadway width (Turner 1984, p. 53), provides valuable insight into the necessity of structural accommodations on the MRT route. Because Turner found narrow bridge widths to be a major cause of bridge crashes, it is likely motorists as well as cyclists will benefit from structural accommodations to widen shoulders on bridges.